

REMARKS

Summary of Office Action

Claims 1-19 are pending in the above-identified patent application.

Claims 1-5, 7-12, and 18 have been rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Claims 1-19 have been rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement.

Claims 1-10 and 12-16 have been rejected under 35 U.S.C. § 103(a) as being obvious from Al Bandar et al. U.S. Patent Application Publication No. 2004/0181145 ("Al Bandar") in view of Greenfield "It's Illegal to Lie to Stockbrokers, but Not to Employees; [Metro Final Edition]", The Sacramento Bee. Sacramento, California: July 6, 1998, pg. B.5 ("Greenfield").

Claims 11 and 17 have been rejected under 35 U.S.C. § 103(a) as being obvious from Al Bandar in view of Greenfield in further view of Johnson, JR. U.S. Patent Application Publication No. 2002/0062089 ("Johnson").

Claims 18 and 19 have been rejected under 35 U.S.C. § 103(a) as being obvious from Al Bandar in view of Greenfield in further view of Gevins et al. U.S. Patent Application Publication No. 2003/0013981 ("Gevins").

Telephonic Interview Summary

On June 11, 2010, a telephonic interview took place between the Examiner and the undersigned. The undersigned wishes to thank the Examiner for the courtesies extended during the telephonic interview.

During the telephonic interview, undersigned and the Examiner discussed the 35 U.S.C. § 101 rejection of

independent claim 1. In addition, the Examiner's rejection of independent claims 1 and 6 under 35 U.S.C. § 112, first paragraph, was discussed. The undersigned suggested an amendment to overcome the § 112 rejection and the Examiner indicated that any such amendment would be taken into consideration in the next action.

Summary of Applicant's Reply

Applicant has amended independent claims 1 and 6, as well as dependent claims 8, 16, 18, and 19, to more particularly define the invention. No new matter has been added and the amendments are fully supported by the original specification.

The Examiner's rejections are respectfully traversed.

Applicant's Reply to the 35 U.S.C. § 101 Rejection

The Examiner has rejected claims 1-5, 7-12, and 18 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. In particular, the Examiner asserts that the use of a processor in claim 1 provides "merely insignificant extra-solution activity" insofar as the processor activity "amount[s] to merely displaying the record for review." Office Action, page 2. Applicant respectfully disagrees.

As amended, claim 1 recites that the processor is used to execute a detection process that analyzes a record of a corporate disclosure "to detect possible deceptive behaviors within the corporate disclosure." Contrary to the Examiner's assertion, this feature is not merely limited to displaying detected behaviors for review. Instead, as recited in claim 1, the processor is involved in the actual detection of possible deceptive behaviors. Thus, the processor activity is an essential element of the claimed invention and the claim is

sufficiently tied to a machine to qualify as statutory subject matter under 35 U.S.C. § 101.

The Examiner further argues that the identification of a stimulus and the determination of a cluster of deceptive behaviors occurring within a time interval "are the heart of the invention" and "are not tied to a particular machine." Without taking a position on what is or what is not at the heart of the invention, applicant respectfully notes that the Examiner must "[analyze] the claim as a whole to evaluate whether a method claim is directed to an abstract idea." See 101 Method Eligibility Quick Reference Sheet, page 1, included with the "Interim Guidance for Determining Subject Matter Eligibility for Process Claims in View of *Bilski v. Kappos*," July 27, 2010. Applicant respectfully submits that the claim, analyzed as a whole, is sufficiently tied to a machine to qualify as statutory subject matter under 35 U.S.C. § 101. Specifically, claim 1 recites the use of a "detection process" executed with a processor "to detect possible deceptive behaviors within the corporate disclosure."

For at least the foregoing reasons, the Examiner's rejection under 35 U.S.C. § 101 should be withdrawn.

Applicant's Reply to the 35 U.S.C. § 112 Rejection

The Examiner has rejected claims 1-19 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement.

In regard to claims 1 and 6, the Examiner states that she "is interpreting the processor to perform the reviewing/analyzing and detection steps" and that the claims "require the detection of deceptive behavior to 1) be in response to a stimulus and 2) be linked to a timing element in order to determine clusters of behaviors." Office Action, page 4. The Examiner then contends that the applicant's specification does not sufficiently describe a processor that

can review a record of a corporate disclosure to determine the presence of behaviors both responsive to a stimulus and subject to a timing element. *Id.*

In the interest of expediting prosecution of this application, and without taking a position as to the patentability of the subject matter rejected by the Examiner, applicant has amended claims 1 and 6 to more particularly define the claimed invention. Specifically, the claims recite that the processor is used to analyze a record of a corporate disclosure "to detect possible deceptive behaviors within the corporate disclosure." The results of the processor's detection are then used to determine the presence of a cluster of deceptive behaviors responsive to a stimulus. This subsequent determination may be accomplished, for example, by a user reviewing the detected behaviors on a computer.

These features of applicant's claims are supported at least in paragraph 54 of the applicant's specification, which discloses a computer-based detection process "that is capable of reviewing the record [...] and determining the occurrence of possible deceptive behavior within the recorded disclosure." The applicant's specification further discloses, *ibid*, that the detection process "may include a software process capable of analyzing the speech or text of a corporate disclosure and identifying within the speech certain trigger words that are indicative of deceptive behavior," or that it "may include a video processor that is capable of analyzing video data stored as part of the record [...] to determine suspected indicia of deceptive behavior." Applicant respectfully submits that the disclosed detection process, software process, and video processor all provide sufficient support for the claimed feature of detecting possible deceptive behaviors with a processor.

Moreover, applicant's specification supports the claimed limitation of "reviewing the detected behaviors to

determine the presence of a cluster of deceptive behaviors responsive to a stimulus." As a general matter, applicant's specification adequately describes the steps involved in determining a cluster of deceptive behaviors. See, e.g., FIG. 4 and the accompanying description. It is inherent within the disclosure that this technique may be used to determine clusters of deceptive behaviors by reviewing the behaviors detected with the computer-based detection process. To wit, originally filed claim 6, since amended, recites a system that includes an "annotation means for allowing the reviewer to annotate the record to indicate the presence of a cluster of deceptive behavior delivered in response to a stimulus and within a predetermined time period." The originally filed specification therefore clearly discloses the ability to use the system of FIG. 4, which includes the annotator, in combination with the cluster determination technique.

Accordingly, for at least the foregoing reasons, the rejection of claims 1-19 under 35 U.S.C. § 112 should be withdrawn.

Applicant's Reply to the Prior Art Rejection

The Examiner has rejected claims 1-10 and 12-16 under 35 U.S.C. § 103(a) as being obvious from Al Bandar in view of Greenfield. Claims 11 and 17 have been rejected under 35 U.S.C. § 103(a) as being obvious from Al Bandar in view of Greenfield in further view of Johnson. In addition, claims 18 and 19 have been rejected under 35 U.S.C. § 103(a) as being obvious from Al Bandar in view of Greenfield in further view of Gevins.

Al Bandar refers to a fully automated method of analyzing a given subject's behavior. Observations of the subject are made, such as the subject's movement, via collecting multiple images - or "frames" - of the subject.

See Al Bandar, pars. 9, 23, 29, and 30. The observations are then coded into channels, which are individual aspects of overall behavior, e.g., particular facial movements. In some instances, a channel "represents the relationship between the current frame and one or more previous frames." See Al Bandar, par. 81. The coding process may include a record that that a particular behavior occurred, a measure of channel duration, or an opinion of a judge, and it may involve extracting features from the individual frames. See Al Bandar, pars. 9, 24, 30, and 31. The channels are analyzed "using an automatic machine classification technique," to provide information on whether the subject is exhibiting deceptive behavior. See Al Bandar, pars. 25 and 34. Channel signals can be collected over a number of frames and statistics may be derived for each channel over fixed or variable time periods. See Al Bandar, pars. 94-95. Statistics from multiple channels may be concatenated to produce a vector that represents the channel statistics over a time period in question. See Al Bandar, par. 98.

The Examiner contends that Al Bandar shows each and every feature of applicant's independent claims 1 and 6 aside from "a corporate disclosure." See Office Action, pp. 5-7. Applicant respectfully submits, however, that Al Bandar does not show or suggest at least the claimed feature of determining the presence of a cluster of deceptive behaviors responsive to a stimulus. A cluster of deceptive behaviors, as defined in applicant's claims, includes (i) "at least one [detected behavior] that begins during a stimulus time interval determined by the stimulus onset and a predetermined period of time after the stimulus termination," and (ii) "at least one [detected behavior] that begins after the stimulus time interval and before the end of a prior behavior included in the cluster of deceptive behaviors." The cluster does not include, however, any "detected behaviors that begin after the

stimulus time interval and after the end of all prior behaviors included in the cluster of deceptive behaviors."

- A. "A stimulus time interval determined by the stimulus onset and a predetermined period of time after the stimulus termination"

Applicant respectfully submits that Al Bandar does not show or suggest "a stimulus time interval determined by the stimulus onset and a predetermined period of time after the stimulus termination," as recited by independent claims 1 and 6.

Paragraph 64 of Al Bandar states that "[g]rouped-channel coders 20 collate the data over a fixed or variable length of time to produce a scaled result." Paragraph 95 of Al Bandar further states that "[s]tatistics can be calculated for fixed time periods or for variable time periods, for example the time that relates to the specific answer to a question." The Examiner argues that this disclosure shows applicant's claimed stimulus time interval. Applicant respectfully disagrees.

Al Bandar's "fixed or variable length of time" is not equivalent to the claimed stimulus time interval. In particular, the claimed stimulus time interval is determined by two key factors: (a) the stimulus onset and (b) a predetermined period of time after the stimulus termination. At best, Al Bandar's reference to a "time that relates to the specific answer to a question" (par. 95) discloses a time interval that corresponds to the length of an answer, or, in other words, the duration of a stimulus onset to the stimulus termination. This duration, notably, ceases upon the completion of the answer and extends no further. In contrast, applicant's claims recite a time interval that extends for a fixed time period beyond the stimulus termination. This time interval is not arbitrary, but a defined feature essential for

determining which behaviors are included in a cluster of deceptive behavior and which are not.

Furthermore, under Al Bandar's scheme, behaviors that occur outside a time interval corresponding to an answer are not included in the "collated data" for that time interval. The claimed approach, on the other hand, provides a mechanism for including behaviors in a cluster that occur outside a stimulus time interval, as will be discussed below. Accordingly, Al Bandar does not show or suggest the stimulus time interval of applicant's claims and, for at least this reason, the Examiner's rejection should be withdrawn.

B. A Detected Behavior that Begins After
a Stimulus Time Interval and Before the
End of a Prior Behavior in the Cluster

Applicant respectfully submits that Al Bandar does not show or suggest a cluster of deceptive behaviors that includes "at least one of the detected behaviors that begins after the stimulus time interval and before the end of a prior behavior included in the cluster of deceptive behaviors," as recited by independent claims 1 and 6.

Al Bandar states that "[b]ecause some behaviors may have a slow pattern and others are fleeting (such as microexpressions), it may be advantageous to collate the channel statistics from one or more time periods to create [a] vector [that represents all the channel statistics over a time period in question]." See Al Bandar, pars. 98 and 99. In addition, paragraph 99 of Al Bandar states that "[e]ach channel may have its own optimum measurement time period."

Citing these portions of Al Bandar, the Examiner asserts that "through the collation [...] of the various channel stats, each with its own time measurement period, a cluster will contain behaviors that began after one time period ended but will overlap with another behavior." Office Action, page 6. Applicant respectfully disagrees.

As an initial matter, it must be assumed that the Examiner intends Al Bandar's "time period in question" (par. 98) to be the equivalent of applicant's stimulus time interval. Al Bandar's "one or more time periods" and the "optimum measurement time period[s]" cannot be equated to the claimed stimulus time interval since there is no indication in Al Bandar that any of these meet the formalistic standard required by applicant's stimulus time interval, which is bounded by "the stimulus onset and a predetermined period of time after the stimulus termination." Rather, the implication of Al Bandar's statement that "each channel may have its own optimum measurement time period" (par. 99) is that these time periods are not determined by the stimulus onset or a predetermined period of time after the stimulus termination, but by a time interval specific to the behaviors themselves.

Yet, the Examiner belies this assumption in charging that Al Bandar's "collation" of channel statistics shows applicant's formation of a cluster of deceptive behaviors. This is so because the Examiner relies on Al Bandar's "optimum measurement time periods" to show that behaviors may overlap outside a stimulus time interval. As such, the Examiner cites two separate and incompatible elements in Al Bandar to show a single feature of applicants' claims. At first the Examiner equates Al Bandar's "time period in question" with the claimed stimulus time interval. Then, the Examiner references Al Bandar's "optimum measurement time periods" to show that Al Bandar contemplates collating behaviors that occur outside a specific time interval but which overlap behaviors within that same time interval. The claims require, however, that the behavior at issue occur after the very same stimulus time interval defined by the stimulus onset and termination. The Examiner may not, therefore, reference multiple and distinct time intervals in Al Bandar to show the equivalent of the single and defined stimulus time interval of applicant's

claims. The Examiner must go with Al Bandar's "time period in question" or "optimum measurement time periods," but not both.

As discussed above, Al Bandar's "optimum measurement time periods" are not equivalent to the stimulus time interval of applicant's claims, as they are not bounded by a stimulus onset and a predetermined period of time after the stimulus termination. However, without such an equivalency, the Examiner has failed to show the claimed behavior "that begins after the stimulus time interval and before the end of a prior behavior included in the cluster of deceptive behaviors." Rather, the portions of Al Bandar cited by the Examiner merely discuss collation of channel statistics "over the time period in question" (par. 98). There is no indication in Al Bandar that any channel statistics are included that occur after this time period. Even if there was such an indication, there is certainly no disclosure in Al Bandar that the channel statistics must overlap with another behavior already in the cluster, as required by applicant's claims 1 and 6.

Moreover, while each of the channel statistics in Al Bandar may be associated with its own individual time interval, this is no different than saying each behavior in claims 1 and 6 has its own time interval. Yet, the stimulus time interval recited in the claims is not the duration of a behavior; it is a particular length of time defined by the stimulus onset and termination. Accordingly, Al Bandar's discussion of collating channel statistics at best describes collating statistics from behaviors that overlap within a particular time interval. There is no disclosure in Al Bandar for collating channel statistics that occur without this particular time interval.

In sum, applicant's claims provide an approach to grouping behaviors that is much more than merely collecting concurrent or overlapping behaviors. Instead, the claimed cluster necessarily includes at least one behavior that

satisfies two criteria: (a) falling outside a predefined time interval and (b) beginning before the culmination of another behavior, where the other behavior is part of the cluster and therefore has already satisfied the requirements for inclusion. As discussed above, Al Bandar does not show or suggest this feature and, for at least this additional reason, the Examiner's rejection should be withdrawn.

C. Detected Behaviors that Begin After a Stimulus Time Interval and After the End of all Prior Behavior in the Cluster

Applicant respectfully submits that Al Bandar does not show or suggest a cluster of deceptive behaviors that excludes "detected behaviors that begin after the stimulus time interval and after the end of all prior behaviors included in the cluster of deceptive behaviors," as recited by independent claims 1 and 6.

In paragraph 139, Al Bandar states that "vectors [in 'gaps' between answers] were ignored." Paragraph 91 states that "[k]nowledge may be used to prevent an eye blink being confused with the person looking at the floor." The Examiner argues that these items show applicant's claimed exclusion of a behavior that occurs after the stimulus time interval and after the end of all prior behaviors included in the cluster of deceptive behaviors.

Assuming, *arguendo*, that the Examiner is correct, Al Bandar cannot be reconciled with the claimed approach. Specifically, it appears from these citations that Al Bandar does not distinguish between behaviors that begin after the stimulus time interval and after the end of all prior behaviors included in the cluster, from behaviors that begin after the stimulus time interval but before the end of all prior behaviors included in the cluster. As recited in applicant's claims, the former would be excluded from a

cluster while the latter would be included. Al Bandar, in contrast, would exclude both.

Al Bandar's disposal of all vectors between answers, regardless of overlap, contravenes applicant's claimed approach of incorporating behaviors that at least partly coincide with other behaviors in the cluster, even if they occur outside the stimulus time interval. Similarly, Al Bandar's technique of distinguishing an "eye blink" from "looking at the floor," without regard for the timing of these behaviors, directly conflicts with the claimed approach of including all behaviors that occur within a stimulus time interval. Accordingly, Al Bandar does not disclose the claimed cluster that simultaneously includes (i) at least one detected behavior that begins during a stimulus time interval determined by the stimulus onset and a predetermined period of time after the stimulus termination, and (ii) at least one detected behavior that begins after the stimulus time interval but before the end of a prior behavior included in the cluster of deceptive behaviors, but that (iii) does not include any detected behaviors that begin after the stimulus time interval and after the end of all prior behaviors included in the cluster of deceptive behaviors. For at least this additional reason, the Examiner's rejection should be withdrawn.

D. Conclusion

For at least the reasons listed above, Al Bandar does not show or suggest all the elements and features of applicant's claims 1 and 6. In addition, applicant respectfully submits that Greenfield does not make up for any of these deficiencies in Al Bandar. Accordingly, the rejection of claim 1 and 6 should be withdrawn.

Furthermore, dependent claims 2-5, 7-12, and 18 are allowable for at least the reason that they depend from allowable independent claim 1. Dependent claims 13-17 and 19

are allowable for at least the reason that they depend from allowable independent claim 6.

Conclusion

For at least the reasons set forth above, applicant respectfully submits that this application, as amended, is in condition for allowance. Reconsideration and prompt allowance of this application are respectfully requested.

Date: November 9, 2010 Respectfully submitted,

/David R. Wildman/

David R. Wildman
Registration No. 66,878
Agent for Applicant
ROPES & GRAY LLP
Customer No. 28120
Prudential Tower
800 Boylston Street
Boston, MA 02199-3600